



Judy Gordy. Editor
Official Newsletter of the
Western Dakota Gem & Mineral
Society PO Box 3620,
Rapid City, SD, 57709-3620

Affiliated with RMFMS & AFMS

September 2016 Edition
Meeting: September 8, 2016. 7PM

TO

It's agate hunting time again!

The purpose of our club is to promote interest and education in geology, mineralogy, paleontology, archeology and lapidary, to sponsor and promote means of coordination of the work efforts of groups and individual.



THE AMMONITE



Newsletter of the Western Dakota Gem & Mineral Society **September 2016**

WESTERN DAKOTA GEM AND MINERAL SOCIETY 2015-16 OFFICERS AND CHAIRMEN

| | |
|--|--------------|
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| Vice President: John Dickinson -- PO Box 775, Lead, SD 57784..... | 605-580-5579 |
| Secretary: Judy Gordy – 407 E Minnesota St Apt 209, Rapid City, SD 57701..... | 402-208-6079 |
| Treasurer: Kelli Wold -- 4511 Ridgewood, Rapid City, SD 57702 | 605-381-6418 |
| BHRMUC Rep: Ellen Tilley -- 21653 Piedmont Meadows Rd., Piedmont, SD 57769..... | 605-787-4659 |
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| Webmaster: Barbara Goddard -- 3280 Bumblebee Dr, Prescott Valley, AZ 86314..... | 928-237-9261 |
| Calling Committee: Jan Goheen 605-341-6161 Letha Wynia 605-721-0550 Patricia Dickinson 605-580-5579 | |

Club Information: Western Dakota Gem and Mineral Society, PO Box 3620, Rapid City, SD 57709-3620

CLUB WEBSITE is: www.WDGMS.org **OTHER CLUB SITES:** Facebook -Western Dakota Gem and Mineral Society/groups.

Meetings: Second Thursday of each month (except August) at 7:00 PM

At: Minneluzahan Senior Citizens Center, 315 N 4th St, Rapid City, SD 57701

ANY SUBMISSIONS FOR THE NEWSLETTER SHOULD BE IN BY THE 25TH OF EACH MONTH

If you change your home address, or your email address, or *have a problem receiving a bulletin, please contact the editor at 402-208-6079 or by email at ammonitenewsletter@gmail.com and it will get corrected.*

CLUB DUES: \$15.00 per person - \$20.00 per family with children under 18 yrs – Includes 11 newsletters by E-mail.

If you chose to receive the newsletter by mail, there is an additional \$10.00 cost to cover the mailing.

Dues cover the RMFMS insurance and the newsletter.

Send dues to the Treasurer: Kelli Wold, 4511 Ridgewood, Rapid City, SD 57702

MEETING: Thursday, September 8, 2016. 7 PM

PROGRAM: Presentation of Scholarships and Dr. Sawyer

REFRESHMENTS: cake etc

DOOR PRIZES:

MESSAGE FROM PRESIDENT –TRUMAN GODDARD

Hi all

September is an important meeting, so I hope to see a lot of members there.

There will be a board meeting at 6 pm. We need to come up with a suggested slate of officers for next year, to be presented at the OCTOBER meeting. We need to elect a show chairman for next year's show.

The results for this years show will be given at The September meeting. Just a hint, I think we did a bang up job, come and see how well.

We'll have an awards presentation for Dr. Foster Sawyer, Stephanie Loose, and Kyle Hazelwood. Before the start of our regular meeting. Annette did a wonderful job for us on getting these scholarships from the AFMS awarded to worthy students at the School of Mines.

Another hand needs to be given to Deb R for her helping hand in this matter.

I feel we need to give to Judy Gordy and Tabitha Wood a hand, they were new to their positions at the show, and worked very hard to make things go smoothly.

We need to give ourselves a hand also for an overall good show, so from me, thank you to everyone who helped make the show a success. **THANK YOU! THANK YOU! THANK YOU!**

Truman Goddard

MINUTES FOR THE AUGUST 12, 2016 MEETING

There was no official meeting for August 12, 2016, so there are no minutes. August is the club's potluck picnic.

There was an informal meeting at the picnic. Treasurer Kelli Wold reported on the rock show. She had a report comparing this year's show costs and profits with last year's show. Annette Rathert discussed the program for the September meeting – the presentation of the two Rocky Mountain Federation Scholarships to the two graduate students at the School of Mines. She suggested that we have a cake and make it a party with decorations and such. Leslie Lysenko volunteered to plan the decorations and refreshments. Annette also had a copy of the news item that the School of Mines has released about the scholarships.

Judy Gordy - Secretary

NEWS ITEM

SCHOLARSHIP AWARDS FOR TWO STUDENTS AT THE DAKOTA SCHOOL OF MINES AND TECHNOLOGY

The American Federation of Mineralogical Societies grants two scholarships to each of the regional societies annually. The Rocky Mountain Federation of Mineralogical Societies, consisting of 10 states in the region, has chosen Dr. Foster Sawyer of the South Dakota School of Mines and Technology to select two students at the school. The Western Dakota Gem and Mineral Society of Rapid City submitted the nomination of Dr. Sawyer.

Dr. Sawyer, Department of Geology & Geological Engineering at SDSM&T, has chosen Stephanie A. Loose and Kyle Hazelwood. Stephanie is from Colorado and Kyle is from Virginia. They are graduate students in Geology at South Dakota School of Mines and Technology and each will receive a \$4000 scholarship.

The Western Dakota Gem and Mineral Society will be presenting the scholarship awards September 8th at 7 pm at the Minneluzahan Senior Center in Rapid City.

News release from the School of Mines

WESTERN DAKOTA GEM AND MINERAL SOCIETY 2016 FINAL SHOW REPORT

| INCOME. | 2015. | 2016 |
|--------------------|--|--|
| Dealers. | \$2745.05. \$2580.35 after tax. | \$2845.00 \$2660.07 after tax |
| Tickets. | \$2596. \$2375.34 after tax. 683 people. | \$3584.35 \$3261.76 after tax 874 people |
| Silent Auction. | \$4130.76 - \$3178.61. \$952.15 club share. | \$3498.25 - \$2578.00 \$920.25 club share |
| Children's Corner. | \$173.44 after tax. | \$132.80 after tax |
| Front Table. | \$21.65 after tax. | \$29.93 after tax |
| TOTAL INCOME. | \$6504.06 without tax. \$6102.93 after tax. | \$10,126.13 without tax \$7545.13 after tax |

EXPENCES

| | | |
|-------------------------|------------------|----------------------|
| Civic Center. | \$3221.50. | \$ |
| Door Tickets. | \$84.46 (1000) | \$14.28 |
| Show Programs. | \$73.21. | \$234.83 (700 color) |
| Advertising | | |
| Pioneer/Prospector. | \$144.00 | |
| Unique News. | \$40.00. | \$40 00 |
| Coffee News. | Free. | Free |
| Sr Citizen News | | |
| South Dakota Magazine. | \$325.00. | \$325.00 |
| Rapid City Journal. | Free | |
| Flyers. | | None |
| Quik Quarter | | |
| Show Cards. | | \$86.99 |
| Case Repair. | | \$27.65 |
| Programs, Presentations | | |
| Signage Materials | | |
| Pot Luck. | \$67.37. | \$56.42 |
| Best of Show/Ribbons. | \$21.50. | \$142.15 |
| Grand Prize. | Donation. | Donation |
| TOTAL EXPENSES. | \$4076 99 | |

| | | | |
|--------------------------|------------------------|------------------|-----------------|
| TAXES. | PAID BY PUBLIC. | | |
| | Silent Auction. | \$309.81. | \$279.86 |
| | Front Table. | \$1.76. | \$2.60 |
| | Vendors. | \$164.70. | \$184.93 |
| | PAID BY CLUB | | |
| | Tickets. | \$220.66. | \$322.59 |
| | Children's. | \$14.06. | \$13.28 |
| TOTAL TAXES PAID. | | \$710.99. | \$803.26 |

PROFIT. \$2190.67

ANNOUNCEMENTS

WE NEED DOOR PRIZES FOR THE SEPTEMBER, OCTOBER, AND NOVEMBER MEETINGS.

WE NEED A PROGRAM FOR THE NOVEMBER MEETING

REMEMBER OCTOBER MEETING AT NEW LOCATION – On Common Ground/Agape Center 610 St Francis

PICNIC

The August potluck picnic was on Friday, August 12th. The date had to be moved to Friday instead of our regular Thursday meeting night since the picnic shelter had already been reserved by some one else.

We had a smaller crowd than last year, but that was probably due to the weather. There was a downpour about 430-500 pm which may have changed some peoples minds.. But fortunately, the weather cleared and we had sunshine for getting the picnic set up. While everyone was eating, the weather graced us with another rain shower. Fortunately, everyone was able to fit comfortably inside the shelter, so no one got wet.

After everyone had ate their fill of all the good food and desserts, we had a brief discussion of club business. Everyone picked up their dishes and departed.

FUTURESHOWSS

September 2-5 -- CRAWFORD, NEBRASKA – Crawford Rock Swap; buy, sell, swap, rocks, minerals, fossils, agates, gems, jewelry. Public welcome. Open 8 am, free. Events: daily 8am Friday, Saturday, Sunday field trips to agate beds. Meet at the Information Booth – Saturday 2pm. Agate Collectors Meeting with guest authors at the Cameco Pavilion. 7pm Rock Auction Cameo Pavilion. By Northwest Nebraska Rock Club. Contact: 308-430-4404 rockshop@bbc.net 308-430-1399 agates@gpcom.net

SEPTEMBER 7-18 -- DENVER, COLORADO – Denver Gem & Mineral Showcase; 10 gem, mineral, fossil and jewelry show locations; 850 vendors -- BEAD RENAISSANCE SHOW DENVER – Denver Mart/Plaza – September 15-18 – COLORADO INDEPENDENT WAREHOUSE SHOW – The Rock Warehouse – September 7-18 – COLORADO MINERAL & FOSSIL SHOW – Ramada Plaza Hotel – September 11-18 – DENVER COLISEUM MINERAL, FOSSIL & GEM SHOW – Denver Coliseum – September 10-18 – DENVER EXPO GEM SHOW – National Western Complex/ Expo Hall – September 9-16 – DENVER FINE MINERAL SHOW – Marriott Denver West – September 14-17 – DENVER GEM & MINERAL SHOW – Denver Mart/Expo Hall – September 16-18 – INTERNATIONAL GEM & JEWELRY SHOW DENVER – Denver Mart/Pavillion Building – September 15-18 -- JG&M EXPO DENVER – Quality Inn Central – September 14-28 -- MINER'S CO-OP MINERAL SHOW – Denver COLISEUM (parking lot) -- September 10-18

OCTOBER 7-9 -- MOAB, UTAH – Annual show; MOAB Points and Pebbles Club, Old Spanish Trail Arena; 3641 S Highway 191; Fri. 10-6, Sat. 10-6, Sun. 10-4; Free Admission; Rock, gem, mineral and lapidary arts vendors. Equipment, supplies displays, demos. Spin wheel, Door Prizes. Food concession on premise.; contact Jerry Hansen, PO Box 1459, Moab, Ut 84532; email: moabrockclub@live.com

OCTOBER 21-23 – WEST JORDAN, UTAH – Annual show; Rockhounds Outreach for Community Knowledge (R.O.C.K.), Viridian Library and Event Center; 8030 South 1825 West; Fri. 10-7, Sat. 10-7, Sun. 10-5; Admission \$2, Children under 12 free; There will be fossils, minerals, gems and jewelry on display and for sale. Hands on activities for everyone. Come build your own rock collection. Door Prizes and a Silent Auction will be going on daily.; contact Angela McMahon, (801)-634-5167; email: utahninnj@aol.com; Web site: <http://www.rockhoundssock.com/>

November 4-5 -- HURRICANE, UTAH – Annual show; 3rd Annual Southern Utah Rock and Gem Show, Washington County Regional Park; 5500 West 700 South; Fri. 10-7, Sat. 10-7; Free Admission; Come and enjoy this event and see what our vendors have for you. Rocks, fossils, minerals, opals, Septarian nodules, petrified wood, jewelry, slabs, equipment, demonstrations, black light room, cabs, and so much more. Something for everyone from kids on up. Silent Auction to raise money for the Children of Hope Academy.; contact Eric Funk, Ut, (435)-609-0136; e-mail: eric_funk@yahoo.com

ROCK CLUB MEETINGS

NORTHWEST NEBRASKA ROCK CLUB – meets the last Monday of each month. 6 pm. At Crawford Eagles Club.

ANCIENT WOLF BONES STUDIED IN MITCHELL

The Prehistoric Indian Village in Mitchell, South Dakota has had two specialist in animal bones studying the bones that have been found between 2010 and 2015.

The specialists studying the bones are Angela Kerri, a Las Vegas-born Zooarchaeologist working at the Max Planck Institute in Germany, and Xuelei Li, a doctorate student from the University of Exeter in the United Kingdom. Li is writing her doctoral thesis in environmental archeology, specifically a “Loose Relationship Between Humans and Fox.” They arrived on June 20th and will leave before the end of July. They may apply for grants to allow them to return and continue their research.

In studying the bones, they are sorted by size. Due to the fact that all canine bones are the same, and can only be distinguished by size. This leads to the problem that it is hard to tell the difference between a large dog or a small wolf.

Interesting things that they have found: a number of bones much larger than the timber wolves found in nearby Minnesota. They have surmised that there was possibly a plains wolf, that would have been large enough to take down animals like bison. On the other end of the spectrum, they have identified known species, like the Swift Fox. One of the world’s smallest foxes. This species is uncommon in this area of South Dakota, because of the farmland. It has recently been reintroduced to the area, but is still uncommon. Evidently, in the year 1000, when this village was populated, the swift fox appears to have been more popular than the red or grey foxes. The other interesting fact that they have found is that there appears to be an utter lack of coyote remains. This research project also allows the study of the relationships between humans and dogs before the introduction of European breeds.

Rapid City Journal. “Ancient Wolf Bones Studied In Mitchell” July 18, 2016

ALASKA STATE MINERAL – GOLD

Gold was officially designated as the state mineral for Alaska in 1968. The Alaskan Gold Rushes in the mid 1800's and the early 1900's brought thousands of adventures to Alaska and the Yukon with dreams of riches. Their stories are both triumphant and tragic.

Gold has physical and chemical properties for more important things than jewelry, art or coins. Gold is a stable element that rarely combines with other elements to corrode. Gold is a very dense element, yet still extremely malleable. The only element that is better a conductor of electricity, is Silver. Therefore, gold is a crucial resource for dentistry, medicine, and scientific and electronic instruments.

The chemical symbol for gold is Au – from Latin aurum meaning “shining dawn”. Probably the oldest precious metal known to man. It’s beauty and scarcity has resulted in bitter conflicts throughout history for humans to gain and protect it.

statesymbolusa.org

ALASKA STATE GEM – JADE

Jade was designated as the official state gem in 1968. There are large deposits of this gemstone, including an entire mountain on the Seward Peninsula. Prior to English exploration in the late 1700's, native Eskimo traded jade, along with copper, hides, and furs.

Alaska's jade ranges in color from shades of green, yellow, red, black, and white. Lavender jade is the most rare and therefore the most highly valued. The term jade is generic, generally referring to three minerals -- jadeite, nephrite, and chloromenlanite.

The quality of Alaskan nephrite varies greatly; the finest is usually found in smooth stream-rolled boulders. Many of which have a thin rind of brown material, the result of weathering, which must be removed to reveal the smooth green nephrite.

JADEITE – Jadeite and nephrite are almost identical and were thought to be one mineral until 1863 when it was discovered they were scientifically different. Jadeite is a pyroxene mineral with the composition $\text{NaAlSi}_2\text{O}_6$, sodium aluminum silicate sometimes with calcium and iron. Most commonly a pale green color. The emerald green jade is called imperial jade and is the most valuable form of jade. Jadeite is the rarer and more valuable form of jade.

NEPHRITE – Is a variety of the calcium and magnesium-rich amphibole mineral actinolite. The chemical formula is $\text{Ca}_2(\text{MgFe})_5\text{Si}_8\text{O}_{22}(\text{OH})_2$. Nephrite jade is mainly grays and greens in color, with yellows, browns, or white occasionally. It is an ornamental stone used in carvings, beads, or cabochan cut gemstones.

CHLOROMELANITE – Is a form of jadeite with colors of deep green or greenish black, that are colored by iron.

Statesymbolsusa.org, minerals.net, Wikipedia, britannica.com

ALASKA STATE FOSSIL – WOOLLY MAMMOTH

The woolly mammoth was designated as the official state fossil in 1986. Woolly mammoths are giant grass eaters of the ice age tundra during the Pleistocene epoch. They stood 10-12th feet tall at their shoulders and weighed 6-8 tons.

The woolly mammoth is one of the last in a line of mammoth species. Its closest living relative is the Asian elephant. The appearance and behavior of this species are among the best studied of any prehistoric animal because of the number of frozen carcasses found in Siberia and Alaska. As well as skeletons, teeth, stomach contents, dung, and depictions from life in prehistoric cave paintings.

The woolly mammoth was well adapted to deal with the cold environment of the last ice age. It was covered with fur with long outer guard hairs and a short under coat. Their color varied from light to dark. Their ears and tail were short to minimize frostbite and heat loss. They had long curved tusks and four molars, which were replaced six times in their lifetime. Their diet was mainly grass and sedges. Their habitat stretched across northern Eurasia and North America.

The mammoth coexisted with humans. They disappeared from the mainland ranges about 10,000 years ago at the end of the Pleistocene Epoch, probably because of climate change, shrinkage of habitat and hunting by humans, or a combination of them. Isolated populations survived on St Paul Island in the Bering Sea until 5,600 years ago and on Wrangel Island in the Alaskan panhandle until 4,000 years ago. After its extinction, humans continued to use its ivory as a raw material.

Statesymbolsusa.org, Wikipedia

ALASKAN GEMS AND MINERALS

AMETHYST – A precious stone consisting of a violet or purple variety of quartz.

RHODONITE – A brownish or rose-pink mineral consisting of a silicate of manganese, common in metamorphic rocks. It consists of a hydroxyl silicate of calcium, aluminum, and iron.

WRANGEL GARNET – Are prized for their raspberry color and their unique octagonal shape. They are of the almandine variety because they contain iron and aluminum. Their imperfections make them unsuitable for gemstones but are prized by collectors for their color and shape.

NEPHRITE JADE – Is a variety of the calcium and magnesium-rich amphibole of actinolite. It is an ornamental stone used in carvings, beads, or cabochan cut gemstones,

FLUORITE – A mineral consisting of calcium fluoride that typically occurs as cubic crystals, colorless when pure but colored by impurities.

RUTILATED QUARTZ – Is a transparent quartz with golden yellow rutile inclusions that are in hair like growths.

Gold – Is a chemical element and in its purest form, it is a bright, slightly reddish yellow, dense, soft, malleable, and ductile metal.

PLATINUM NUGGET – Very strong, dense metal that never corrodes. In pure form it is harder than gold.

WOOLLY MAMMOTH FOSSIL – Giant grass eaters of the ice age tundra during the Pleistocene Epoch. Similar to present day elephants.

AGATES – Ornamental stone consisting of a hard variety of chalcedony, typically banded in appearance.

PETRIFIED WOOD – Fossilized remains of terrestrial vegetation. Tree like plants transitioned to stone by permineralization. Wood turned to stone.

COPPER -- Reddish-brown ductile, malleable metallic element. Excellent conductor of heat and electricity.

CINNABAR – Bright red mineral consisting of mercury sulfide. It is the only important ore of mercury, sometimes used as a pigment.

ZINC – Chemical element, silvery-white metal, constituent of brass, used to coat iron and steel to protect against corrosion.

ACTINOLITE PSEUDOMORPH AFTER AUGITE (URALITE) – Uralite is defined as pseudomorphs of Hornblende group minerals, mainly Actinolite, after a Pyroxene group mineral, mainly Augite.

BARRERITE – Is a tectosilicate mineral and a member of the zeolite family.

CHALCANTHITE – Is a richly-colored blue/green water soluble sulfate mineral $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. It is commonly found in the late-stage oxidation zones of copper deposits.

CHALCOPYRITE – A yellow crystalline mineral consisting of a sulfide of copper and iron. It is the principal ore of copper.

HEMATITE – ALASKA BLACK DIAMOND – a reddish-black mineral consisting of Ferris oxide. It is an important ore of iron.

BARYTES – BARITES – Is a mineral consisting of barium sulfate, typically occurring as colorless prismatic crystals or thin white flakes. It is the main sources of barium.

CHROMITE – A brownish-black mineral that consists of a mixed oxide of chromium and iron and is the principal ore of chromium.

COAL – Is a flammable black hard rock used as a solid fossil fuel. It is mainly made up of 65-95th% carbon and also contains hydrogen, sulphur, oxygen, and nitrogen. It is a sedimentary rock formed from peat, by the pressure of rocks laid down later on top.

GRAPHITE – A gray, crystalline, allotropic form of carbon that occurs as a mineral in some rocks and can be made from coke. It is used as a solid lubricant, in pencils, and as a moderator in nuclear reactors.

GYPSUM – A soft white or gray mineral consisting of hydrated calcium sulfate. It occurs chiefly in sedimentary deposits and is used to make plaster of Paris and fertilizers, and in the building industry.

IRON – A strong, hasard magnetic silvery-gray metal. The chemical element of atomic number 26, much used as a material for construction and manufacturing, especially in the form of steel.

LEAD – A soft heavy grey metal that melts easily and is poisonous, used to cover roofs, or in the past, for water pipes. It is a chemical element: symbol Pb.

MARBLE – A hard crystalline metamorphic form of limestone, typically white with mottlings or streaks of color, that is capable of taking a polish and is used in sculpture and architecture.

MOLYBDENUM – Does not occur naturally as a free metal on earth, it is found only in various oxidation states in minerals. The free element, a silvery metal with a gray cast, has the sixth-highest melting point of any element. It readily forms hard stable carbide in alloys, and for that reason most of the world production is used in steel alloys.

BISMUTH – A brittle crystalline, highly geomagnetic metallic element with a very low thermal conductivity and a pinkish-white luster, used in alloys to form sharp castings for objects sensitive to high temperatures and in various low-melting alloys for fire-safety devices.

NICKEL – Is a naturally occurring, lustrous, silvery-white metallic element with a slight golden tinge. It is the fifth most common element on earth and occurs extensively in the earth's crust.

COBALT – Is found in the earth's crust only in chemically combined form. There are small amounts found in alloys of natural meteoric iron. Cobalt is not found as a free element in the earth's crust. But the compound in the earth's crust have been used since prehistoric times to give ceramics and glass their blue color.

PALLADIUM – A silver-white ductile malleable metallic element that is used especially in electrical contacts, as a catalyst, and in alloys.

PETROLEUM – A liquid mixture of hydrocarbons that is present in certain rock strata and can be extracted and refined to produce fuels including gasoline, kerosene, diesel oil, and oil.

SILVER – A white metallic element that is sonorous, ductile, very malleable, capable of a high degree of polish, and chiefly monovalent in compounds, and that has the highest thermal and electric conductivity of any substance.

SULPHUR – Is a pale yellow, odorless, brittle solid, which is insoluble in water but soluble in carbon disulphide. Sulphur is essential to life. It is a minor constituent of fats, body fluids, and skeletal minerals. Sulphur is found in meteorites, volcanoes, hot springs, and as gelena, gypsum, epsom salts, and barite. It is recovered commercially from “salt domes” along the Gulf Coast of the USA.

TIN – A chemical element chiefly obtained from the mineral cassiterite, which contains tin dioxide. It is a silvery-white, malleable metal, that is not easily oxidized in air. The first alloy used on a large scale was bronze, made of tin and copper, from as early as 3000 BC.

TUNGSTEN – Is a grayish-white lustrous metal, which is solid at room temperature. Tungsten has the highest melting point and lowest vapor pressure of all metals, and at temperatures over 1650°C has the highest tensile strength. It has excellent corrosion resistance and is attacked only slightly by most mineral acids,

Google Definitions, ehow.com, makermends.com, minerals.net, mindat.org, Wikipedia, freedictionary.com, nickelinstitute.org, webelements.com, goldrushnuggets.com, johnbetts-fineminerals.com, stateofalaskaguide.com

ALASKAN GEM AND MINERAL SOCIETIES

Chugach GEM and Mineral Society, Anchorage

Mat-Su Rock and Mineral Club, Palmer

The Ammonite.

September 2016.

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